CLAIMS

1. A method for establishing control signaling between nodes connected to the same communication link, said link carrying a bitstream that is divided into frames, each frame in turn being divided into time slots, said time slot be allocatable to form circuit-switched channels, said method comprising the steps of:

all nodes connected to said link using, at link start-up, the same predefined time slot or set of time slots in said frames to receive control signaling messages from and transmit control signaling messages to nodes connected to said link;

said nodes establishing, using control signaling via said predefined time slot or set of time slots, respective control channels, defined by respective time slots or sets of time slots in said frames, reserved for transmission of control signaling messages from respective ones of said nodes;

each respective one of said nodes using, when having been reserved such a respective control channel, it's respective control channel for sending control signaling messages to other nodes connected to said link, the other nodes on the link accessing this respective control channel only for receiving control signaling messages.

2. A method as claimed in claim 1, said step of said nodes establishing respective control channels to be used for transmission of control signaling messages from respective ones of said nodes comprising said nodes first determining, using control signaling via said predefined time slot or set of time slots, which nodes that shall have reserved write access to which time slots of said frame, each respective node then selecting its respective time slot or set of time slots, to be used as it's control channel, from the time slots that it has so been determined to have reserved write access to and

informing, using control signaling via said predefined time slot or set of time slots, other nodes of the definition of said respective time slot or set of time slots to be used as the node's control channel for it's

5   transmission of control signaling messages.

3. A method as claimed in claim 1, each node, when receiving a control signaling message in said predefined time slot or set of time slots from an upstream node on a

10   bitstream, determining whether or not the message is addressed exclusively to said node and, if not, transmitting said message to a downstream node on said bitstream in said predefined time slot or set of time slots.

15   4. A method as claimed in claim 1, wherein, when a respective time slot or set of time slots has been reserved to define a control channel for a respective node, said respective node using said control channel to transmit certain types of control signaling messages and

20   continuing using said predefined time slot or set of time slots to transmit other types of control signaling messages.

5. A method as claimed in claim 4, the first mentio-

25   ned types of control signaling messages including messages referring to channel management and the second mentioned types of control messages including messages referring to link state monitoring.

30   6. A method as claimed in claim 1, the number of time slots determined to define the respective control channel is determined independently for each respective node based upon a control signaling capacity criteria for the respective node.

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7. A method as claimed in claim 1, wherein the signaling protocol that is used on said predefined time

slot or set of time slots to establish said control
channels and/or payload channels is the same protocol as
the one that is used on said control channels for
establishing payload channels.

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     8. A method as claimed in claim 1, said link being a
unidirectional shared link.

     9. A method as claimed in claim 1, said frames and
10   said time slots each being of essentially fixed size.

     10. A method as claimed in claim 1, said predefined
time slot or set of time slots being the first time slot
in each frame.

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     11. A method for establishing control signaling
between nodes connected to the same communication link,
said link carrying a bitstream that is divided into
frames, each frame in turn being divided into time slots,
20   said time slot be allocatable to define circuit-switched
channels, said method being performed by a subject node
of said nodes and comprising the steps of:
     using, at link start-up, a predefined time slot or
set of time slots in said frames to receive control
25   signaling messages from and to transmit control signaling
messages to other nodes connected to said link;
     establishing, using control signaling via said pre-
defined time slot or set of time slots, a control channel
defined by another time slot or set of time slots in said
30   frames to be used exclusively by the subject node for
transmission of control signaling messages to other nodes
connected to said link; and, having done so,
     using said control channel to transmit control
signaling messages to other nodes connected to said link.

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     12. A method as claimed in claim 11, said allocating
step comprising the steps of:

determining, using control signaling via said predefined time slot or set of time slots, which time slots of said frame that the subject node shall have reserved write access to;

5   selecting said another time slot or set of time slots, to define said control channel, from the time slots that the subject node has so been determined to have reserved write access to; and

informing, using control signaling via said
10 predefined time slot or set of time slots, other nodes of the definition of said another time slot or set of time slots to be used as the subject node's control channel for it's transmission of control signaling messages.

15   13. A method as claimed in claim 12, further comprising determining, using control signaling via said predefined time slot or set of time slots, yet another time slot or set of time slots in said frames defining a another control channel to be used exclusively by another
20 node for transmission of control signaling messages on said link, the subject node only read accessing said another control channel to receive control signaling messages from said another node.

25   14. A method as claimed in claim 11, the subject node, when receiving a control signaling message in said predefined time slot or set of time slots from an up-stream node on the link, determining whether or not the message is addressed exclusively to the subject node and,
30 if not, transmitting said message to a downstream node on said link in said predefined time slot or set of time slots.

35   15. A method as claimed in claim 11, the subject node, when having established said control channel, using said control channel to transmit certain types of control signaling messages and continuing using said predefined

time slot or set of time slots to transmit other types of control singling messages.

16. A method as claimed in claim 11, the first mentioned types of control signaling messages including messages referring to channel management and the second mentioned types of control messages including messages referring to link state monitoring.

17. A method as claimed in claim 11, the number of time slots allocated to define said control channel being determined independently for the subject node based upon a signaling capacity criterion for the subject node.

18. A method as claimed in claim 11, wherein the signaling protocol that is used on said predefined time slot or set of time slots to establish said control channels and/or payload channels is the same protocol as the one that is used on said control channels for establishing payload channels.

19. A method as claimed in claim 11, said link being a unidirectional shared link.

20. A method as claimed in claim 11, said frames and said time slots each being of essentially fixed size.

21. A method as claimed in claim 11, said predefined time slot or set of time slots being the first time slot in each frame.

22. A method for establishing control signaling between nodes connected to the same communication link, said link carrying a bitstream that is divided into frames, each frame in turn being divided into time slots, said time slot be allocatable to define circuit-switched channels, said method comprising the steps of:

said nodes using, at link start-up, predefined point-to-point channels, all being defined by the same predefined time slot or set of time slots in said frames, each interconnecting neighbor nodes on said link, and all

5 together forming a packet switched control signaling channel for control signaling;

said nodes establishing, using control signaling via said packet switched control signaling channel, respective circuit switched point-to-multipoint control signal-

10 ing channels defined by respective time slots or set of time slots on said frames to be used for transmission of control signaling messages from respective exclusive ones of said nodes.